

What is claimed is:

1. In a video transmission and receiving apparatus using a radio communication instrument, an improved radio transmission and receiving apparatus using a radio communication instrument, comprising:

an input unit for receiving a video signal generated by a video input apparatus such as a video camera, etc.;

a capture and analog/digital converter for capturing the inputted video signal by a field or frame and converting into a digital signal;

a storing unit for temporarily storing the converted digital video data;

a central processing unit for JPEG-compressing the stored digital video data by a horizontal line, changing a transmission sequence of the JPEG compressed data based on a certain method, encrypting the same and performing a decompression and decoding operation with respect to an externally received compressed and encrypted video signal;

an encryption code generator including a variation table by which the central processing unit changes a transmission sequence of the JPEG-compressed data in a transmission mode and the sequence of the data of the signal having a changed sequence is recovered in a receiving mode;

a display unit for displaying a video signal which is currently inputted or received;

a radio communication instrument controller for transferring a compressed and encrypted video data by the central processing unit to the radio communication instrument or transferring the video data received from the radio communication instrument to the central processing apparatus;

a controller for connecting the central processing unit to the display unit and radio communication instrument controller in accordance with a transmission and receiving state of the video data and controlling the movement of the video data; and

a power management unit for supplying a voltage and current to each element so that the video transmission and receiving apparatus is normally operated.

2. The apparatus of claim 1, further comprising a computer connection unit for controlling and managing the function and operation of the video transmission and receiving apparatus based on a unmanned or remote method.

3. The apparatus of claim 1, further comprising an option unit for diversifying and maximizing the functions of the video transmission and receiving apparatus.

4. The apparatus of claim 1, further comprising a security connector for transmitting a video signal in a security format.

5. The apparatus of claim 1, wherein said video transmission and receiving apparatus is connected by a connection apparatus separately from the radio communication instrument.

6. The apparatus of claim 1, wherein said video transmission and receiving apparatus is used integrally with the radio communication instrument.

7. In a video signal compression method of a video transmission and receiving apparatus, an improved video signal compression method of a video transmission and receiving apparatus, comprising:

a step for storing an inputted digital video data into a storing unit by the unit of a field or frame;

a step for computing the stored video data by a horizontal line of the field or frame, JPEG-compressing the number of the lines as one unit and

storing the compressed data into another storing unit; and

a step for forming a process that a digital video data is JPEG-compressed and stored into a memory region as a loop and performing the loop until all line data in the selected field or frame are JPEG-compressed.

8. The method of claim 7, wherein said JPEG compression is performed by a first irregular function generation routine, and said first irregular function generation routine includes:

a step for sequentially or randomly varying a certain group of numeral digits at a certain speed;

a step for selecting a certain numeral digit from the group of the numeral digits when transferring a video through the video transmission and receiving apparatus; and

a step in which the number of the horizontal lines of the JPEG-compressed field or frame is determined based on a selected numeral digit.

9. A method for encrypting a JPEG-compressed signal in a video transmission and receiving apparatus includes:

a step for storing the JPEG compressed data into a storing unit by the field or frame in a sequence that the data is compressed and providing a serial number to each compression data;

a step for randomly a serial number of the compression data; and

a step for transferring a JPEG-compressed video data in accordance with a sequence of the changed serial number.

10. The method of claim 9, wherein said step for changing the serial number of the compression data includes:

a step for forming a plurality of code variation tables having a serial

number of the compressed data and a changed number corresponding to the serial number based on 1:1;

a step for randomly selecting one among the variation tables the video data is transmitted; and

a step for changing the sequence of the data compressed in a sequence that the data is formed in a corresponding table when selecting one among the variation tables.

11. A signal format used when transferring and receiving a video signal using a radio communication instrument, comprising:

a code for indicating a transmission start of a video data as a header of a signal format;

a code for indicating a variations state of a JPEG compression data;

a code for indicating a JPEG compression method;

a compression video data;

a code for indicating a data of other function; and

a recognizing code for indicating a completion of a video signal transmission.